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RESEARCH ARTICLE

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Notulae to the Italian alien vascular flora: 5

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Abstract

In this contribution, new data concerning the distribution of vascular flora alien to Italy are presented. It includes new records, and confirmations for Italy or for Italian administrative regions of taxa in the genera *Albizia*, *Anredera*, *Bougainvillea*, *Cardamine*, *Cenchrus*, *Cephalaria*, *Ceratochloa*, *Cytisus*, *Datura*, *Delosperma*, *Euonymus*, *Freesia*, *Hylotelephium*, *Lantana*, *Musa*, *Physalis*, *Rotala*, *Styphnolobium*, *Trachycarpus*, and *Tradescantia*. Nomenclature and distribution updates, published elsewhere, and corrections are provided as supplementary material.

Keywords

Alien species, floristic data, Italy, nomenclature

How to contribute

The text for the new records should be submitted electronically to Chiara Nepi (chiara.nepi@unifi.it). The corresponding specimen along with its scan or photograph has to be sent to FI Herbarium: Sezione di Botanica Filippo Parlatore del Museo di Storia Naturale, Via G. La Pira 4, 50121 Firenze (Italy). Those texts concerning nomenclatural novelties (typifications only for accepted names), status changes, exclusions, and confirmations should be submitted electronically to: Gabriele Galasso (gabriele.galasso@comune.milano.it). Each text should be within 2,000 characters (spaces included).

Floristic records

Albizia julibrissin Durazz. (Fabaceae)

+ (CAS) **CAL**: Montegiordano (Cosenza), fraz. Montegiordano Marina, massicciata ferroviaria presso Via Canale G. Garibaldi (WGS84: 40.031813°N; 16.600047°E), massicciata ferroviaria, ca. 10 m, 21 August 2017, *N. Olivieri* (FI). – Casual alien species new for the flora of Calabria.

A young specimen of the species grows on pebbly ground at the railway roadbed crossing the village's suburban area near an overpass. It originated from the seeds produced by some trees cultivated along a neighboring road. The native range of *Albizia julibrissin* includes southern Caucasus, Iran, Pakistan, India, Nepal, Bangladesh, Sri Lanka, Myanmar, China, Korea, Japan, Ethiopia, Eritrea, and Somalia. The species was introduced in Italy for ornamental purposes in 1745 (Targioni Tozzetti 1896) and it is currently widely planted as ornamental in parks and gardens around the world.

N. Olivieri

Anredera cordifolia (Ten.) Steenis (Basellaceae)

+ (CAS) **MAR**: Cupra Marittima (Ascoli Piceno), presso la stazione ferroviaria (WGS84: 43.023750°N; 13.860402°E), incolto, ca. 6 m, 3 August 2017, *N. Olivieri* (FI). – Casual alien species confirmed for the flora of Marche.

At Cupra Marittima, this species grows on sandy soil at the edge of a small neglected area, along with *Broussonetia papyrifera* (L.) Vent. and *Ailanthus altissima* (Mill.) Swingle. The species was no longer recorded in the Marche after 1950 (Galasso et al. 2018). According to Viegi et al. (2004), reporting Brilli-Cattarini's personal communications, *Anredera cordifolia* was previously observed in Ancona in 1945, and in Pesaro in 1939.

N. Olivieri

Bougainvillea spectabilis Willd. (Nyctaginaceae)

+ (CAS) **ABR**: Pescara (Pescara), presso Viale V. Pepe (WGS84: 42.458347°N; 14.231300°E), bordo di marciapiede, ca. 3 m, NE, 9 August 2017, *N. Olivieri* (FI). – Casual alien species new for the flora of Abruzzo.

A young plant has developed on the inner edge of a sidewalk at the base of the perimetral wall of a private home in the urban area of Pescara. The location is partially shaded and at a short distance from the Adriatic Sea, but it is sheltered from sea winds by the buildings. In Italy, *Boungavillea spectabilis* is also reported as a casual alien in Sardegna (Bacchetta et al. 2009, Galasso et al. 2018).

N. Olivieri

Cardamine occulta Hornem. (Brassicaceae)

+ (CAS) **LAZ**: Roma (Roma), lungo Via del Biscione (WGS84: 41.895524°N; 12.472969°E), aiuola, 18 m, 28 October 2017, *A. Stinca* (FI, PORUN). – Casual alien species new for the flora of Lazio.

In Italy, *Cardamine occulta* is recorded for Piemonte, Lombardia, Trentino-Alto Adige, Veneto, Friuli Venezia Giulia, Emilia-Romagna, Toscana, Campania, and Sardegna (Galasso et al. 2018). According to Stinca et al. (2017), this species has been largely spread by nurseries and soil transportation.

A. Stinca, G. Chianese

Cenchrus setaceus (Forssk.) Morrone (Poaceae)

+ (CAS) **TOS**: Piombino (Livorno), fraz. Baratti (WGS84: 42.998797°N; 10.516870°E), margine stradale, 8 m, 21 October 2017, *T. Fiaschi* (FI). – Casual alien species new for the flora of Toscana.

The occurrence of this species in Toscana does not seem to be linked to direct human cultivation. Seeds of *Cenchrus setaceus* are known to have a very efficient wind dispersal strategy. However, given that the nearest known populations occur a few hundred kilometres away from Baratti, wind is not the most likely vector. The species is included in the list of Invasive Alien Species of Union Concern (Commission Implementing Regulation EU 2016/1141) and was found in three separate nuclei 10 m apart, in a parking area of a renowned tourist location, where seeds could have been introduced *via* pet fur or car mats. According to Galasso et al. (2018), it occurs in Lazio, Puglia, Calabria, Sicilia, and Sardegna.

G. Bonari, T. Fiaschi, R. Guarino

Cephalaria syriaca (L.) Schrad. (Dipsacaceae)

+ (NAT) **LAZ**: Roma (Roma), Scalo ferroviario Ostiense (WGS84: 41.871550°N; 12.488699°E ± 700 m), ca. 20 m, 28 May 1954, *A. Cacciato* (RO); Tarquinia (Viterbo), loc. Pian di Spille, zona militare (WGS84: 42.255734°N; 11.678989°E), incolto erboso al margine di campo coltivato a fieno greco, 4 m, 17 April 2017, *A. Scoppola* (FI, UTV no. 35200); Monte Romano (Viterbo), valle del Fiume Mignone (WGS84: 42.251059°N; 11.877385°E), margine di campi lungo strada sterrata in luogo arido, 109 m, 20 April 2017, *A. Scoppola, L. Cancellieri* (UTV no. 35202, *Herb. L. Cancellieri*). – Naturalized alien species confirmed for the flora of Lazio.

Cephalaria syriaca belongs to the Mediterranean-Turanian element, growing as a weed in cereal fields and waste places (Matthews 1972). It is not listed for Lazio by Anzalone et al. (2010), while Lucchese (2017) records the species for this administrative region, but without providing information on recent records or herbarium specimens. Accordingly, it has been excluded from the confirmed regional alien flora (Galasso et al. 2018). It is not reported in the flora of the Pian di Spille coast (Iocchi and Bartolucci 2008). However, it was reported by Cacciato (1955) in the Ostiense railway station in Roma, an area deeply transformed due to the urban development of the last decades. This ancient discovery is attested by a 1954 herbarium specimen preserved in RO. However, this record was ignored by Lucchese (2017). In the two new localities, *C. syriaca* occurs with a conspicuous number of fertile individuals, spread at the edge of cultivated fields and waste places.

L. Cancellieri, A. Scoppola

Ceratochloa cathartica (Vahl) Herter (Poaceae)

+ (NAT) **PUG**: Bari (Bari), foce del Torrente Lamasinata (WGS84: 41.134654°N; 16.827638°E), prateria umida su substrato sabbioso, 1 m, 30 September 2017, *R. Labadessa* (FI); Bari (Bari), Torrente Lamasinata (WGS84: 41.134647°N;

16.827632°E), prati umidi su sabbia, 1 m, 30 September 2017, *R. Labadessa* (BI no. 40486, no. 40487). – Naturalized alien species new for the flora of Puglia.

Ceratochloa cathartica is an alien plant from South America, whose European distribution ranges from Portugal to Ukraine, and from Great Britain to Italy (Ryves et al. 1996). This species was probably introduced as fodder in Europe, where it may be found as naturalized in the warmer regions (Ryves et al. 1996). Several individuals were found within an area of about two hectares, in a wet sandy meadow dominated by annual and perennial grass species.

R. Labadessa, L. Forte

Cytisus striatus (Hill) Rothm. (Fabaceae)

+ (NAT) **ITALIA** (**LIG**): Noli (Savona), fraz. Tosse, fra la SP8 e l'Autostrada dei Fiori A10 (WGS84: 44.227616°N; 8.393363°E), macchia mediterranea, 177 m, 20 June 2017, leg. *L. Minuto*, det. *C. Turcato* (FI, GE). – Naturalized alien species new for the flora of Italy (Liguria).

Cytisus striatus is native to Morocco, Portugal, and Spain. It has been introduced into a number of northwestern European countries (England, Scotland, Wales, and France), and in the Americas (California and Oregon in the U.S.A., and Argentina), where it is considered to be an invasive shrub. A large population, identified following the key published by Frodin and Heywood (1968), was detected growing on the motorway embankment. Other plants were observed along the Autostrada A10 from Albenga to Savona Vado, and along the Autostrada A12 near Sestri Levante (loc. Rocche di Sant'Anna).

C. Turcato, L. Minuto

Datura wrightii Regel (Solanaceae)

+ (CAS) **LAZ**: Bracciano (Roma), fraz. Vigna di Valle, Museo Storico dell'Aeronautica Militare, presso l'Aeroporto di Vigna di Valle (WGS84: 42.085366°N; 12.218396°E), suolo sabbioso presso il lago, 158 m, 16 July 2017, *S. Buono* (FI, UTV). – Casual alien species new for the flora of Lazio.

Datura wrightii is a perennial plant native to the southwestern United States and Mexico. In southern Europe, it was widely confused with the closely related species *D. inoxia* Mill. (Verloove 2008). Reports of the occurrence of this species as casual or naturalized alien in some Italian regions are very recent (Banfi and Galasso 2010, Verloove et al. 2010, Ardenghi et al. 2011, Del Guacchio 2011, Cerutti and Motta 2012, D'Aleo and Bonanno 2016, Galasso et al. 2018). A single individual was observed growing on sandy soil near Lake Bracciano, along with other alien species as *Abutilon theophrasti* Medik., *Ludwigia peploides* (Kunth) P.H.Raven subsp. *montevidensis*

(Spreng.) P.H.Raven, *Pavonia hastata* Cav. (see also Galasso et al. 2017), and *Physalis peruviana* L. (see beyond in this contribution). The plant regularly developed a high number of flowers and fruits from July to December 2017.

S. Buono, S. Magrini, A. Scoppola

Delosperma cooperi (Hook.f.) L.Bolus (Aizoaceae)

+ (CAS) **EMR**: Castel San Giovanni (Piacenza), Via Fratelli Bandiera (SP10R), angolo con Via Bottarone (WGS84: 45.06085°N; 9.43153°E), ciglio stradale, con *Setaria italica* subsp. *viridis* e *Lactuca sativa* subsp. *serriola*, 75 m, 3 September 2017, *N. Ardenghi, S. Mossini* (FI). – Casual alien species new for the flora of Emilia-Romagna.

A single flowering individual was found in the growing site.

N.M.G. Ardenghi, S. Mossini

Euonymus japonicus Thunb. (Celastraceae)

+ (CAS) **ABR**: Pescara (Pescara), aiuola lungo Viale T. Patini (WGS84: 42.452488°N; 14.241713°E), epifita su stipite di *Phoenix canariensis*, ca. 4 m, 29 October 2017, *N. Olivieri* (FI). – Casual alien species new for the flora of Abruzzo.

A young individual of this species grows as an epiphyte among the stumps of the cut leafy rachis of a *Phoenix canariensis* H.Wildpret, at about 1.5 m from the ground. The settlement site is located in a coastal, partially shaded, suburban area, not far from the Adriatic Sea. In the surrounding gardens, *Euonymus japonicus* is cultivated as ornamental and the recorded plant may have originated from seeds dispersed by ornithochory.

N. Olivieri

Freesia alba (G.L.Mey.) Gumbl. (Iridaceae)

+ (CAS) **ABR**: San Vito Chietino (Chieti), fraz. Marina di San Vito (WGS84: 42.307275°N; 14.446527°E), prato presso giardino privato, ca. 20 m, 29 October 2017, *N. Olivieri* (FI). – Casual alien species new for the flora of Abruzzo.

A young individual of the species has developed in a meadow near a private garden where the species is cultivated. It grows on sandy-pelitic soil, dry in summer. The locality is close to the Adriatic Sea, and has a Mediterranean climate, but it is exposed to damp atmospheric currents coming from the sea. *Freesia alba* and its horticultural hybrids with *F. corymbosa* N.E.Br. and *F. leichtlinii* Klatt, erroneously attributed to *F. refracta* (Jacq.) Klatt (Goldblatt and Manning 2008, Galasso et al. 2018), are bulbous plants of South African origin cultivated as ornamentals, even outdoors and in the ground along the Abruzzo coasts.

N. Olivieri

Hylotelephium spectabile (Boreau) H.Ohba (Crassulaceae)

+ (CAS) **MAR**: Pesaro (Pesaro e Urbino), Viale della Liberazione, Mura roveresche (WGS84: 43.90999°N; 12.90483°E), parete in mattoni, con *Capparis orientalis*, *Parietaria judaica*, *Convolvulus sepium*, 28 August 2017, *N. Ardenghi, S. Mossini* (FI). – Casual alien species new for the flora of Marche.

Two individuals (one of which with ripening fruits) were observed on the ancient city walls of Pesaro, probably originating from the dissemination of cultivated plants in the nearby dwellings.

N.M.G. Ardenghi, S. Mossini

Lantana camara L. subsp. *aculeata* (L.) R.W.Sanders (Verbenaceae)

+ (CAS) **PUG**: Ugento (Lecce), fraz. Torre San Giovanni, lungo un canale artificiale presso la costa ionica (WGS84: 39.875752°N; 18.146011°E), vegetazione disturbata lungo un canale, ca. 4 m, 24 August 2017, *N. Olivieri* (FI). – Casual alien subspecies new for the flora of Puglia.

Some individuals grow near an artificial channel along with *Phragmites australis* (Cav.) Trin. ex Steud. subsp. *australis* in a flat coastal area, on a red soil with good water availability, characterized by disturbed vegetation and partially shaded by some *Eucalyptus camaldulensis* Dehnh. subsp. *camaldulensis*. The previous report for Puglia (Olivieri 2012) of *Lantana camara* L. for the same area of Ugento has to be referred to the same taxon recorded here. *L. camara* subsp. *aculeata* is widely cultivated for ornamental purposes and naturalized in the tropics and subtropics; in Italy it is reported in Abruzzo, Molise, Basilicata, Calabria, Sicilia, and Sardegna (Galasso et al. 2018).

N. Olivieri

Lantana depressa Small (Verbenaceae)

+ (CAS) **PUG**: Taranto (Taranto), presso la stazione ferroviaria (WGS84: 40.484680°N; 17.223055°E), incolto, ca. 17 m, S, 23 August 2017, *N. Olivieri* (FI). – Casual alien species new for the flora of Puglia.

One individual of the species grows at the base of the steps leading to an old abandoned building near the railway embankment, not far from the railway station. It has developed inside a fissure at the base of the rise of a partially eroded concrete step, in a context of ruderal vegetation dominated by *Dittrichia viscosa* (L.) Greuter subsp. *viscosa*. *Lantana depressa* is native to southern Florida and has also been reported in Sicilia (Galasso et al. 2018). According to Sanders (2012), the individual belongs to *L. depressa* var. *depressa*, originally widespread along the limestone outcrop of the Miami Rock Ridge.

N. Olivieri

Musa basjoo Siebold & Zucc. ex Iinuma (Musaceae)

+ (NAT) **TOS**: Montignoso (Massa-Carrara), fraz. Cinquale, sommità dell'argine di un canale in destra del Fiume Versilia, in prossimità di una villetta residenziale (WGS84: 43.986072°N; 10.161817°E), argine di canale, 2 m, 19 July 2017, *L. Lastrucci, L. Lazzaro* (FI). – Naturalized alien species new for the flora of Toscana.

In the site of collection, the species is present with several individuals, of different ages. The population appears to have originated by vigorous resprout from pruning residues. Indeed, the species is widely cultivated in the gardens of the residential areas near the canals surrounding Lake Porta. Several localized stands of this species have also been observed in other sites of the Massa-Carrara and Lucca provinces.

L. Lastrucci, G. Ferretti, L. Lazzaro

Physalis peruviana L. (Solanaceae)

+ (CAS) **LAZ**: Bracciano (Roma), fraz. Vigna di Valle, Museo Storico dell'Aeronautica Militare, presso l'Aeroporto di Vigna di Valle, in riva al lago (WGS84: 42.085373°N; 12.218674°E), riva di lago, 157 m, 28 July 2017, *S. Buono* (FI, UTV). – Casual alien species new for the flora of Lazio.

Physalis peruviana is a herbaceous perennial species, which has been very widely introduced across the world from South America as a cultivated plant for its fruit, as a medicinal plant, and as an ornamental (CABI 2018). It is reported as a casual alien in several administrative regions, especially in northern Italy, and as naturalized in Sicilia (Galasso et al. 2018). It is classified as an invasive plant at the global level (Global Invasive Species Database 2018). Some individuals of this species grow on sandy soil near Lake Bracciano, along with *Abutilon theophrasti* Medik, *Datura wrightii* Regel (see a previous record in this contribution), *Ludwigia peploides* (Kunth) P.H.Raven subsp. *montevidensis* (Spreng.) P.H.Raven, *Pavonia hastata* Cav. (see also Galasso et al. 2017), *Portulaca oleracea* L., *Solanum nigrum* L., and other alien species. The plants regularly develop flowers and fruits.

S. Buono, S. Magrini, A. Scoppola

Rotala ramosior (L.) Koehne (Lythraceae)

+ (NAT) **EMR**: Colorno (Parma), golena del Po presso la fraz. Sacca (WGS84: 44.976183°N; 10.383083°E), fanghi di lanca, 25 m, 20 August 2017, *M. Adorni* (FI). – Naturalized alien species new for the flora of Emilia-Romagna.

In Galasso et al. (2018), *Rotala ramosior* is reported only for Piemonte, Lombardia, where the species grows in rice fields (Banfi and Galasso 2010), and for Veneto along the River Po (Masin and Scortegagna 2012). The population from Sacca, con-

sisting of several dozens of plants growing on muddy and damp soil, was also reported in the Acta Plantarum Forum (http://www.floraitaliae.actaplantarum.org/viewtopic.php?t=98599).

M. Adorni

Styphnolobium japonicum (L.) Schott (Fabaceae)

+ (CAS) **PUG**: Foggia (Foggia), Villa Comunale - Parco Karol Wojtyla (WGS84: 41.555366°N; 15.186515°E), ca. 64 m, 19 August 2017, *N. Olivieri* (FI). – Casual alien species new for the flora of Puglia.

Some young individuals of the species grow along the perimetral wall of the Villa Comunale, near Via Galliani, on a calcareous alluvial vertisol subjected to partial desiccation of the herbaceous vegetation in summer, partially shaded by *Styphnolobium japonicum* and *Pinus halepensis* Mill. subsp. *halepensis*.

N. Olivieri

Trachycarpus fortunei (Hook.) H.Wendl. (Arecaceae)

+ (CAS) **MAR**: Pesaro (Pesaro e Urbino), Viale C. Battisti (WGS84: 43.91577°N; 12.91205°E), aiuola con *Acer pseudoplatanus* coltivato, 4 m, un individuo, 28 August 2017, *N. Ardenghi, S. Mossini* (FI). – Casual alien species new for the flora of Marche.

A single, aged individual was found in a public flowerbed, probably grown from seeds originated from cultivated plants in the surroundig public and private gardens.

N.M.G. Ardenghi, S. Mossini

Tradescantia fluminensis Vell. (Commelinaceae)

+ (CAS) **MAR**: Pesaro (Pesaro e Urbino), Viale della Liberazione, Mura roveresche (WGS84: 43.90999°N; 12.90483°E), parete in mattoni, con *Capparis orientalis*, *Parietaria judaica*, *Convolvulus sepium*, 28 August 2017, *N. Ardenghi, S. Mossini* (FI). – Casual alien species new for the flora of Marche.

A group of plants, without flowers or fruits, was found on the ancient city walls of Pesaro, probably deriving from the dissemination of cultivated plants in the surrounding dwellings.

N.M.G. Ardenghi, S. Mossini

Nomenclature and distribution updates from other literature sources

Nomenclature, status, and distribution updates according to Béguinot (1903), Devesa (2007), Kilian et al. (2009+), Göktürk and Sümbül (2014), Liu et al. (2017), Banfi (2018), Güzel et al. (2018), and Martini and Viciani (2018), and corrections to Galasso et al. (2018) are provided in Supplementary material 1.

G. Galasso

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Supplementary material 1

Supplementary data

Edited by: Gabriele Galasso

Data type: species data

Explanation note: 1. Nomenclature updates; 2. Status/Note updates; 3 Distribution updates; 4. Synonyms, misapplied or included names.

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